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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/107,618	06/30/1998	STEVEN M BLUMENAU	E0295/7066RF	8313

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EXAMINER	
DINH, DUNG C	

ART UNIT	PAPER NUMBER
2152	

DATE MAILED: 09/19/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/107,618	BLUMENAU ET AL.	
	Examiner	Art Unit	
	Dung Dinh	2152	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *05 July 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-4,6-27 and 29-34* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-4,6-27 and 29-34* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *12/10/04*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

Applicant's arguments filed 7/5/05 have been fully considered but they are not persuasive.

Applicant argued that there is no suggestion to combine Ericson with Yu. Applicant argued that Yu teaches authentication whereas Ericson teaches authorization. Ericson teaches a trusted environment; hence it is unnecessary to add the security teaching of Yu to Ericson. The argument is not persuasive because Ericson clearly concerned with security and prevention of unauthorized access to the storage system by host devices over the network [see col.1 lines 62 to col.2 lines 3]. Furthermore, as stated by applicant in the remark (p.11), authentication and authorization are two distinct security measures. Since Ericson only discusses authorization, it would have been obvious to look to Yu to add authentication. Both Ericson and Yu are directed to improving access security, hence they are analogous art. Yu specifically provides the motivation to combine by the advantage of his security method (see Yu col.8 lines 3-40). Hence, the examiner has properly established a prima facie case of obviousness.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. § 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> *(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.*

Claims 1, 15, 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Eustace UK Patent Application GB 2,262,633 (IDS cited by Applicant 8/25/03) and further in view of IBM TDB "Data protection at the VOLUME level (cited by Examiner 7/3/02).

As per claim 1, Eustace teaches a data management method accessing a storage system by at least two devices coupled to the system through a network, the method comprising steps of:

receiving over the network a request from one of the devices, the request identify at least the on of a plurality of files on the storage device and source of the request [page 2 lines 14-19];

selectively servicing, at the storage device, the request responsive to configuration data indicating that the device is authorized to access [page 2 lines 20-23], wherein the step of selectively servicing comprises verifying that the represented

source of the request is the one of the at least two devices that issued the request [page 5 lines 3-6].

Eustace does not teach access at the volume level. Eustace disclose controlling access to files on the storage system. However, controlling access to volumes would have been an obvious variation from the teaching of Eustace. It is well known in the art to provide volumes on storage system so as to provide virtual drives to the requesting devices. The IBM TDB teaches to provide encryption at the volume level. It would have been obvious for one of ordinary skill in the art apply the teaching of Eustace to protect volumes on a storage system because it would have improved security and prevent a device from unauthorized access to a volume.

Claims 15 and 21 are rejected under similar rationale as for claim 1 above.

Claims 1-4, 9-27, 29-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ericson US patent 6,061,753 and further in view of Yu US patent 4,919,545.

As per claim 1, Ericson teaches a data management method for managing access to a storage system between two devices coupled to the storage system through a network [col.1 "SCSI

Fibre Channel bus or Ethernet based local area network"], the method comprising:

Receiving over the network at the storage system a request from one of the device [initiator - see col.3 lines 56-60];

Selectively servicing, at the storage system, the request responsive to configuration data indicating that the device [initiator] is authorized to access the portion of data [col.4 lines 4-25].

Ericson does not teach authenticating the request at the storage system to authenticate the device issuing the request. Yu teaches a security method for authorizing access by a process in source node to a resource in the network comprising encrypting an identifier of the requesting node using a key associated with the node, sending the encrypted key to the resource, decrypting the identifier at the resource node to verify the request [see abstract]. It would have been obvious for one of ordinary skill in the art to combine the teaching of Yu with the storage system of Ericson to authenticate the requesting device because it would have prevented access by unauthorized device stealing access information (see Yu col.3 line 29-35).

As per claim 2, Ericson teaches the storage system stores a plurality of volumes of data where configuration data stored in the storage system in a configuration table [look-up table]

having identifier and information indicating which volumes are available to a device [col.4 lines 34-54].

As per claim 3, it is apparent that the request would be forwarded to the storage system over the network.

As per claim 4, Ericson teaches using Fibre Channel [col.1 line 15, col.6 line 5]. It is apparent that a system with Fibre Channel would use Fibre Channel protocol.

As per claims 15-18, 21-22, 26-27 they are rejected under similar rationales as for claims 1-4 above. It is apparent that the process as modified would have computer program instruction stored on computer readable medium and the corresponding system for carrying out the method recited.

As per claims 11 and 30, Ericson teaches plural disk drives [RAID col.4 lines 5-15].

As per claims 12 and 29, Yu teaches validating that the request was not altered during transmit (col.3 lines 29-35).

As per claims 13 and 19-20, 24-25, Ericson teaches row with bitmap records corresponding to teach device authorized to access each of the corresponding ports [col.4 lines 40-53].

As per claims 14 and 23, Ericson teaches precluding service request responsive to configuration data [col.4 lines 47-50].

As per claims 9, 10, 31, 32, Ericson does not specifically disclose that the device is a host processor or file server. The

type of device making the request would clearly have been a matter of design choice because it does not change the functionality of the storage system access control method taught by Ericson. Furthermore, Ericson teaches using the system may be used over a local area network [col.1 lines 15-16]. It is apparent in such a usage to have host processor or file server requesting access to the storage system.

Claims 33, 6-8, and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ericson US patent 6,061,753, Yu US patent 4,919,545 and further in view of Abadi et al. US patent 5,315,657.

As per claim 33, Yu teaches the request include a request access key (capability + signature 44), and verify with an expected key at the storage system (resource node) [see col. 6 line 50 to col. 7 line 44]. Yu does not teach sending an expected access key between the storage system and the requesting device. Yu teaches the resource node maintains a unique encryption key for each requesting node [col.7 lines 12-15, lines 50-56]. Yu does not specifically disclose how the resource node comes to possession of these unique keys. However, the method of providing encryption information to a destination node so that the

destination node can encrypt data specifically targeted for the providing node is well known in the art. Abadi discloses using RSA cryptography to authenticate the identity of a requesting node by providing a public key to the destination and the destination returning to the requesting node data (i.e. the claimed expected access key) encrypted using that public key such that it can only be decrypted with the requesting node's private key. [See Abadi col.4 lines 50-68, col.5 lines 1 to col.6 line 8]. RSA cryptography is a well-known secured encryption standard and code fore implementing the encryption is readily available. Hence, it would have been obvious for one of ordinary skill in the art to modify Ericson and Yu to use RSA cryptography because it would have eased implementation of the encryption features and to ensure difficulty for unauthorized device to gain access via theft of the access key.

As per claim 6, Yu teaches verifying the identified source by comparing the requested key to the expected key (col.3 lines 20-28).

As per claim 7, Yu clearly teaches encrypting using key associated with the device [col.7 lines 14-15].

As per claim 8, it is apparent that the system as modified would decrypt the access key using a decryption key provided initially by the device (the pubic key).

As per claim 34, Abadi teaches transferring of encryption information between the storage system and the device (the exchange of public key information [see Abadi col.4 lines 50-68, col.5 lines 1 to col.6 line 8]).

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

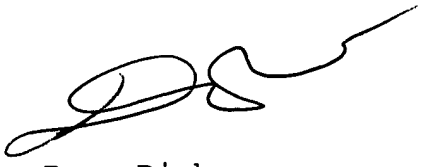
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dung Dinh whose telephone number is (571) 272-3943. The examiner can normally be reached on Monday-Friday from 7:00 AM - 3:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenton Burgess can be reached at (571) 272-3949.

The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Dung Dinh
Primary Examiner
September 15, 2005